

NOTES AND DESCRIPTIONS OF SOME RARE PORT  
JACKSON FISHES.

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I offer no apology for placing before you the following original descriptions of fishes taken within the limits of Port Jackson during the last two months, because in many cases—as for instance in that of *Plectropoma nigro-rubrum*—the published descriptions available for the ordinary student are so meagre as to make the determination of the species a matter of difficulty, if not of impossibility; and because when unmistakable descriptions are given in an accessible publication, the danger of redescription under a new name is greatly reduced, and thus we may reasonably hope to keep the synonymy of our Australian fishes within proper limits.

The following descriptions have also the advantage of having been taken from newly caught examples, and are therefore more likely to be correct, both as regards the comparative measurements, and more especially the coloration, which in every case, where practicable, has been jotted down immediately on the removal of the fish from the water.

PLECTROPOMA NIGRO-RUBRUM. Cuv. and Val.

D. 10/18. A. 3/8. V. 1/5. P. 13. L. lat. 65. L. trans. 4/21. Cœc. Pyl. 8.

Length of head  $2\frac{3}{4}$ , of caudal fin  $5\frac{2}{3}$ , height of body  $3\frac{3}{5}$  in the total length. Diameter of eye  $\frac{1}{6}$  of the length of head; inter-orbital space  $\frac{2}{5}$  of diameter of eye. Hinder limb of præoperculum emarginate, serrated, the denticulations in the notch

stronger than those at either side ; those at the angle small. Two spines on the lower limb, of equal size, and distant one from the other. Two flattened opercular spines, of which the upper is the larger. The posterior extremity of the maxillary extends to beneath the hinder margin of the orbit. Lower jaw the longer ; it has three pairs of canines at its front angles, two pairs behind ; upper jaw with two pairs on the angles of inter-maxillary ; they but little exceed the ordinary teeth in length. Dorsal spines a little lower than the rays, increasing in length to the fourth, which is the longest,  $\frac{2}{5}$  of the body below it ; the fin is deeply notched, the last spine being its own length shorter than the first ray. Second anal spine very strong,  $\frac{2}{3}$  of the longest ray, and  $\frac{3}{8}$  of the body above it. Caudal slightly rounded.

Colors red ; four broad black transverse bands on the body ; the first commencing between the fifth and seventh dorsal spines, and terminating a short distance in front of the vent ; the second between the anterior rays of the soft dorsal and anal ; the third from the last dorsal rays to immediately behind the anal ; and the fourth in front of the base of the caudal : the bands are of equal breadth with the interspaces. The head and nape are suffused with dusky blotches, which almost form an irregular longitudinal band on the occiput. The soft posterior lobe of the operculum broadly margined with gold. Fins bright scarlet, all except the ventrals blotched with dull yellow.

Our specimen which measures a little more than 10 inches, is a female, and has the ova, which are small and numerous, in a forward stage of development. The stomach contained the partially digested remains of an *Atherina*. It was caught in Port Jackson on the 20th of February.

With regard to the determination of our example as the "*Plectropome rouge et noir*" of Cuvier and Valenciennes, it should be noticed that these authors mention 5 bands on the sides, as also Quoy and Gaimard, who figure their specimen in the "*Voyage de l'Astrolabe*"; nor does either figure or description shew anything of the dark markings on the head, so conspicuous in our form ; and in addition to these distinctions in color, the spines on the

lower limb of the præoperculum are differently situated, and we have also an extra ray in the dorsal. The examples described by the authors quoted above having been obtained in Western Australia, it is probable that this form now under consideration is an eastern representative, which, should the differences in form, color and locality prove constant, would have to be raised to the rank of a local race or subspecies. A specimen in the Macleay Museum appears to agree with ours.

Early in the month I obtained by the trawl a fine example of *Callionymus calcaratus*, Macleay, and having had an opportunity of examining the type specimens, I wish to correct a typographical error which has crept into the original description, and is likely to create difficulty in future. Mr. Macleay says, speaking of the præopercular spine, "strong, flat, with a strong spur on the *posterior* half of the outer side pointing *backwards*, and three on the inner side pointing inwards and *backwards*" (1). I find that the spine is bent inwards at the tip, and armed on the inside with three, sometimes four, additional spinules, all of which are directed *forwards* as also is a stout straight spinule, which springs from the outside angle of the spine in its *anterior* half; it is not nearly so long as the diameter of the eye; the anal is pure white, both rays and webs. My fish measures  $8\frac{3}{4}$  inches, which is much longer than any of the type specimens.

On the 13th ultimo we obtained in the trawl up Middle Harbour a magnificent *Ammotretis*, a genus of which very few individual examples are known; as the lateral line is distinctly curved this cannot be Dr. Gunther's species from Tasmania, from which it also differs in its greater depth, smaller head and longer snout. It is probable that the species described by Mr. Macleay as *A. zonatus* is identical with our fish, the banded appearance, which induced him to give it the specific name, having been caused by contact, when dying, with some foreign substance, and as the name "*zonatus*" is unsuitable and misleading, I would suggest that this fine species should be re-named *Macleayi* in honour of

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(1) In my specimen, and in one of Mr. Macleay's types, there are three inner spinules on one side and four on the other.



our distinguished Secretary, on whose fête-day it was obtained, and who originally described it. The following is a description of the specimen, which measured  $10\frac{1}{3}$  inches.

AMMOTRETIS MACLEAYI.

D. 80. A. 50. P. 12. V. dext. 7, sin. 4. L. lat. 87.

Length of head  $4\frac{1}{3}$ , depth of body  $1\frac{9}{10}$  in the total length. Eyes on the same level, divided by a narrow scaly space  $\frac{1}{3}$  of their diameter, which is  $4\frac{2}{3}$  in the length of head, and  $\frac{2}{3}$  of the snout. The maxillary ends some distance in front of the eye. Teeth in villiform bands on the blind side only. Dorsal fin commences on the tip of the rostral appendage, and is not continued to the base of the caudal: the longest rays are behind the middle of the fin, opposite and equal to the longest anal rays and scarcely  $\frac{1}{4}$  of the body below them. The anterior rays are almost free. The base of the left ventral is only  $\frac{1}{2}$  of that of the right, which is continuous with the anal. Pectorals of equal dimensions. Caudal slightly rounded, equal to the length of the head. Scales ctenoid, covering the entire head and extending up the fin rays. Lateral line with a decided, though slight, curve above the pectoral fin.

Rich olive brown, with a few indistinct darker blotches. White beneath, tip of left ventral black.

On the 13th of last month we received from Inspector Seymour an *Exocoetus* taken in the neighbourhood of the harbour. It belongs to the division in which the ventral fins extend beyond the origin of the anal, and which is without the central barbel at the symphysis of the lower jaw, and is closely allied to the *Exocoetus speculiger* of Cuv. and Val., from which it differs in the point of origin of the anal fin. It differs from *nigricans*, to which also it is closely allied, in the position of the ventrals, number of dorsal and anal rays, and pattern of coloration. The example is a male, with the milt very slightly developed, and measures  $15\frac{1}{4}$  inches. I propose to call this species *melanocercus* in reference to the black caudal.

## EXOCÆTUS MELANOCERCUS. Nov. sp.

D. 13. A. 11. V. 6. P. 14.

Length of head 6, of caudal fin 4, height of body  $8\frac{1}{2}$  in the total length. Diameter of eye equal to snout,  $\frac{6}{7}$  of interorbital space which is concave, and  $\frac{3}{10}$  of the head. Greatest height of head equals its length anterior to hind margin of orbit. Upper surface of head flattened, as is also that of the body, almost as far as the dorsal fin. Snout obtuse; lower jaw slightly the longer. Maxillary almost hidden by præorbital when the mouth is closed. Teeth in the jaw minute, in villiform bands. Anterior dorsal rays  $\frac{3}{2}$  of the length of the head. Anal fin commences opposite the middle of the dorsal. Pectorals, which are  $1\frac{1}{2}$  in total length, all but extend to the rudimentary rays of the caudal. The ventrals are inserted considerably nearer to the root of the caudal than to the hinder margin of the orbit, and reach almost to the end of the base of the anal; they are  $\frac{1}{4}$  of the total length,  $1\frac{1}{2}$  of that of the head, and equal to the lower lobe of the caudal which is much the longer. There are about 30 series of scales between the occiput and the dorsal fins, and 7 between the origin of the dorsal and the lateral line.

Dark steel blue above, becoming lighter on the sides and beneath; inferior caudal portion of the body, opercular and mandibular regions silvery; abdominal region grey, with the margins of the scales darker. Dorsal and pectoral fins dusky, the latter with a large white blotch at its base inferiorly. Ventrals with the central rays dark; anal white; caudal black.

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 NOTES AND EXHIBITS.

Mr. Ratte exhibited a Jaw Bone of a Devonian Fish from New South Wales, probably *Asterolepis*, (Australian Museum as well as the following:)—A Silicified Fossil Shell, apparently allied to *Worthenia*. A Detached Siphon of an *Orthoceras*. There is